

Re: HPA APP ID #14829

Fish Ladder Monitoring Report for December 7th through December 13th, 2020

For the week of December 7th, the ladder was observed on December 10th from 09:35 – 10:35. The river conditions and fish ladder were monitored from the ladder side (east bank) of the river. River discharge on Dec 10th was approximately 580 cfs during the time of observation, with a maximum of 650 and minimum of 520 cfs for the day. At the ladder, a staff gage placed at the edge of a weir wall measured a water column height of 0.9 ft during observation. The weekly high total river discharge reached 990 cfs, and the weekly low reached 310 cfs. Weather conditions were mostly cloudy, with no rain at the time of observation. Ambient air temperature was 3.3°C. The drop height from the last ladder cell to the raceway appears to be at the 14” or greater mark; an adjustment of the cell drop height may be necessary soon.

No fish were observed this week at the ladder or the surrounding spillway area. While no obstructive woody debris accumulated within 100 m of the ladder, a deciduous tree is leaning over the river approximately 15 meters upriver of the fish ladder entrance and may pose an obstruction hazard in the near future. This tree has been leaning over the river since at least early October, according to photo records. The bedload present in the ladder is not adversely affecting flow or ladder function. Bedload accumulation will be removed in the coming weeks when permitting allows.



Photo 1: Ladder outflow on December 10th.



Photo 2: Staff gage measurement on top weir wall edge.

Fish Ladder Monitoring Report Checklist – HPA APP ID # 14829

This checklist must be completed and submitted weekly to WDFW at HPAapplications@dfw.wa.gov

- Fish ladder monitoring must be conducted by a qualified fisheries biologist, hydrologist, or hydraulic engineer that has adequate experience with fish passage projects.
- The fish ladder must be monitored **daily** from October 15, 2020 to November 15, 2020.
- The fish ladder must be monitored **once a week** from November 15, 2020 to July 15, 2021.

Reporting Fish Passage non-compliance: Report instances where fish passage or the fish ladder require maintenance or repair, such as, but not limited to: A water surface drop at the fish ladder that prevent adult migration; -Debris issues that impact flow in the ladder or prevent fish from using the ladder; -There is a fish ladder outage and the ladder must intentionally be closed. If the outage will last longer than 48 hours, there must be a contingency plan for providing fish passage.

Monitoring Point	Condition of Monitoring Point & Action Taken	
Velocity(cfs) entering/leaving fish ladder	staff gage in ladder @ weir wall edge: 0.9 ft	Total river cfs @ USGS gage: ~ 580 cfs
Height of water surface drop – Last Cell to Tailrace	~ 14" ± 2"	
Debris at ladder intake: impairing flow or impeding fish passage?	Potential obstruction: leaning tree ~ 15 m upstream of ladder. * Tree has been leaning since at least October.	
Debris at ladder outlet (downstream entrance): impairing flow or impeding passage?	— None	
Any attraction flow issues? Fish observed jumping at barrier instead of ladder?	No attraction flow issues other than previously mentioned ones	
Were any photos able to be taken of observed fish? How many fish were observed?	— No fish observed	
Any additional site data collected? (weather, temperature, debris load, color of river water, etc)	partially sunny, mostly cloudy ~ 38°F	
Do/did any issues of non-compliance require reporting to WDFW?		Yes, cell-to-tailrace drop height

Personnel Name & qualification Mallory Vayk, Fisheries biologist
 Date 12/10/2020